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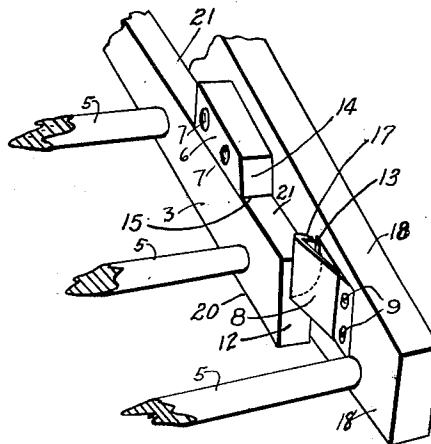
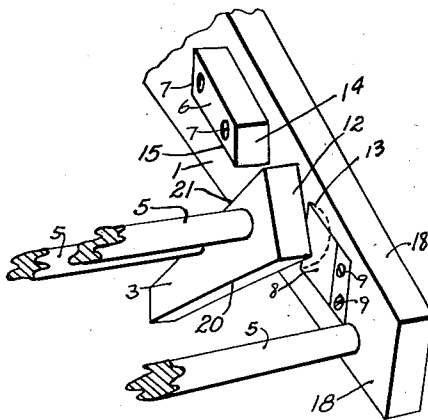
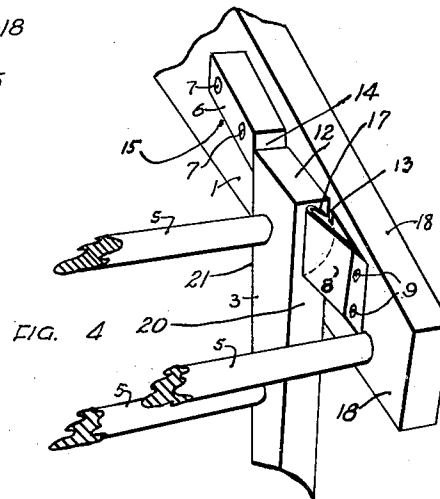
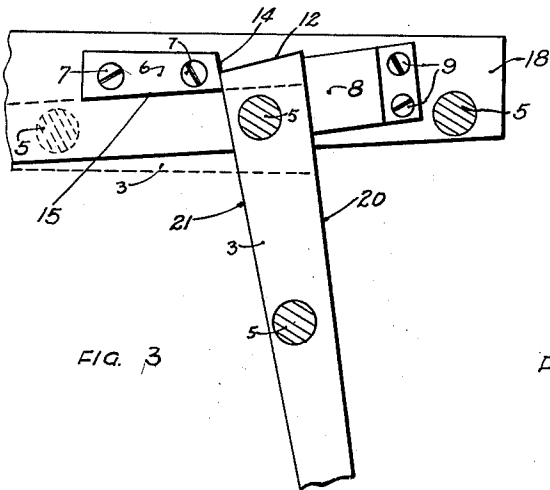
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CONVERTIBLE CHAIR

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CONVERTIBLE CHAIR

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1 Claim. (Cl. 155—99)

1

The present invention relates to articles of furniture, and more particularly to chairs, lounges and similar devices. To avoid circumlocution of language, the term "chairs" will be employed hereinafter, in the specification and the claim, in this general sense, to include also lounges and other such devices of similar character.

An object of the present invention is to provide a new and improved chair.

Another object is to provide a novel and improved combination chair that may be employed either for strictly seating purposes, when occupying a first or upright position, or primarily for lounging purposes, when occupying a second or inclined position.

A further object is to provide a new and improved chair the back and the seat members of which may each be employed convertibly as the back or the seat of the chair, depending upon the position occupied by the chair.

Other and further objects will be explained hereinafter and will be more particularly pointed out in the appended claim.

In summary, the present invention relates to a chair comprising two members of different length each adapted for use as the back or the seat of the chair, a leg element rigid therewith, and a support for each of the said two members. The supports are preferably collapsible leg elements one of which is adapted to cooperate with the rigid leg element to support the chair in position such that the longer of the said two members may be used as the back and the shorter member as the seat of the chair, the other support being adapted to cooperate with the rigid leg element to support the chair in position such that the said longer member may be used as the seat and the said shorter member as the back of the chair. A preferred chair construction and a simple leg-locking mechanism cooperative therewith are hereinafter described.

The invention will now be more fully described in connection with the accompanying drawings, Fig. 1 of which is a perspective of a chair embodying the present invention, in preferred form, shown occupying a first or upright position, in which the chair may be employed for strictly seating purposes; Fig. 2 is a similar perspective of the chair illustrated in Fig. 1, but shown as occupying a second or inclined position in which the chair may be employed more particularly primarily for lounging purposes, part of the chair covering being shown broken away in order

2

more clearly to illustrate details of a particular leg-folding mechanism; Fig. 3 is a vertical section taken along the line 3—3 of Fig. 2, looking in the direction of the arrows, illustrating the said folding leg in extended position; and Figs. 4, 5 and 6 are fragmentary perspective illustrating, respectively, the extended, the partially folded and the collapsed positions of the folding leg.

In the first or upright position illustrated in Fig. 1, the chair of the present invention comprises a back member A, a seat member B, two substantially parallel rear legs comprising a rear leg element 1 and two substantially parallel front legs comprising a front leg element 4. These may, for example, all be constituted of wood. The rear member B may be constituted of two wood side-bar supports 2, connected together by dowels 5, between which material 11 may be disposed to provide a seating portion. The back member A may be constituted of two similar parallel wood side-bar supports 18, illustrated, respectively, as integral extensions of the rear legs 1, connected together by other dowels 5, and between with which material 19, similar to the material 11, may be disposed to provide a back-rest portion. Two of the dowels 5 may extend through both the rear ends of the side-bar supports 2 and the lower ends of the side-bar extensions 18 at their junction 16 with the respective legs of the rear leg element 1, in order rigidly to secure the seat member B to the back member A and the rear leg element 1. Screws 10 may be employed to help secure the parts rigidly together at this junction 16 disposed intermediately the members 1 and 18, with the rear ends of the side-bar supports 2 in contact with the inner faces of the lower ends of the side-bar extensions 18.

The seat member B and the back member A may be secured together rigidly in other ways also. It is not essential, furthermore, that the back member A and the seat member B be secured together rigidly. They may, for example, be separable, and adjustable with respect to each other.

In order that the seat member B may be supported substantially horizontally, the length of the legs of the leg element 4 is preferably substantially the same as the vertical projection of the leg element 1. If the back member A is secured to the seat member B at right angles, it will be adapted to serve as a substantially vertical back rest for the chair when it occupies its upright position, illustrated in Fig. 1. If

3

the angle is slightly obtuse, as shown, of course, it will incline away from the vertical. If the length of the leg element 4 is made somewhat greater or less than the length of the rear leg element 1, the seat member B will slope slightly downward or upward as the case may be, and the inclination of the back member A will then slope slightly at a corresponding angle to the vertical.

In accordance with a feature of the present invention, the upright chair illustrated in Fig. 1 is convertible into a lounge-type chair. This may be effected by tipping the chair forward, toward the right, as viewed in Fig. 1, about the bottom ends of the rigid leg element 1, into the inclined position shown in Fig. 2.

Instead of the rear leg element 1 cooperating with the front leg element 4 to support the chair in the upright position, as shown in Fig. 1, in which the member A may be used as the back of the chair, and the member B as the seat, they will now cooperate with two further legs 3 to support the chair in the inclined position, in which the member B may be used as the back rest of a chair of the lounge type, and the member A as the sloping seat of the lounge-type chair. It is when the chair is used in this inclined position, as a lounge-type chair, that it may be desirable to adjust the members A and B, as before stated. This adjustment may be not only in angle, but also in position.

In the first or upright position of the chair, illustrated in Fig. 1, the chair is supported, not only by the rear leg element 1, but also, at the free front end of the seat member B, by the front legs. In the second or inclined position of the chair, illustrated in Fig. 2, the chair is supported, not only by the leg elements 1, but also, at the free end of the member A, by the legs 3.

To convert the chair from the lounge-type form, illustrated in Fig. 2, back into the upright form, illustrated in Fig. 1, the chair may be tipped back about the same lower ends of the leg element 1, in the opposite direction, toward the left.

Though for definiteness it is preferred to refer to the member A as the back member and to the member B as the seat member, either of these members A and B is adapted for use as the back or the seat of the chair, and the other member is then adapted for use as the seat or the back of the chair, respectively. Though it is convenient, for the same purpose of definiteness, to refer to the legs of the leg element 1 as the rear legs of the chair, furthermore, as they actually are in the first or upright position of Fig. 1, they actually also serve as the rear legs when the chair occupies its second or inclined position, illustrated in Fig. 2.

In order to provide a long, sloping lounge seat when the chair occupies the position illustrated in Fig. 2, and correspondingly a high, upright back when the chair occupies the position shown in Fig. 1, it is desirable that the length of the side-bar extensions 18, beyond the junction 16, be greater than the length of the legs of the leg element 1. Further to attain this end, the length of the member A, upon which one may lounge or recline, must be greater than that of the member B.

When the chair occupies the first or upright position illustrated in Fig. 1, of course, there is no need to employ the leg element 3. When the chair occupies the second or inclined position, illustrated in Fig. 2, certainly, there is no need to employ the leg element 4. Provision is, there-

4

fore, made for rendering the legs of the leg elements 3 and 4 foldable or collapsible. In the first or upright position of the chair, illustrated in Fig. 1, therefore, the legs of the leg element 4 are shown in the unfolded or extended position, and the legs of the leg element 3 in the folded or collapsed position between the side-bar supports 18. In the second or inclined position, illustrated in Fig. 2, on the other hand, the legs of the leg element 3 are shown in their unfolded or extended position, and the legs of the leg element 4 in the folded or collapsed position.

The leg elements 3 and 4 are rendered collapsible and extensible by pivoting them about respective dowels 5, respectively disposed at the free ends of the members A and B. In order that the legs of the leg element 3 may pivot as a unit about one of the pivoting dowels 5, they are held together by another dowel 5. The legs of the leg elements 4 are similarly held together by still another dowel 5. The two leg elements 3 or 4, with their connecting dowels 5, may, of course, each be replaced by only a single leg device. In order to improve the appearance, the legs 3 and 4, as well as the side bars 2 and 18, are each shown tapering or inclining toward their free extremities. The tapering faces of the leg elements are shown at 20 and 21, Figs. 3 to 6. If the tapers are uniform, then parts may be cut economically from wood boards. A chair of this nature, having dimensions hereinafter tabulated, may, for example, be constructed from a thin wooden board about one foot by three feet.

The materials 11 and 9 may, for example, comprise perforated sheet metal, like aluminum, to provide lightness and air circulation. They may also comprise webbing, fabric, upholstery and any equivalent, in one piece or separate pieces. The convertible seat and back members A and B, furthermore, may be provided with cross-support slats, not shown, or the side bars 2 and 18 may be integrally formed with the material 11 and 19.

It is desirable to lock the leg elements 3 and 4, both in the extended and the collapsed positions. A preferred locking mechanism for the collapsible leg elements may comprise flat spring elements 8, one secured at each free end of each side bar 2 and 18 by screws 9, 9. Each spring element 8 is bent outward from the side bar to which it is secured, the bent portions each terminating at its free end in a tongue 17. In both the collapsed and extended positions of the leg element that it locks, the spring element 8 assumes the locking position shown in Figs. 3, 4 and 6, in which the tongue 17 engages the top face 12 and the side face 20, respectively, of the leg element.

In the collapsed position of the leg element, the bottom face 15 of a stop 6 engages the opposite side face 21 of the leg element, as shown in Fig. 6. The stop 6 is shown held in place by screws 7. The bottom face 15 of the stop 6 is inclined to correspond to the top of the face 21 of the leg element, in order to lock the leg element in its collapsed position as shown by full lines in Fig. 6 and by dotted lines in Fig. 3.

When it is desired to actuate the collapsible leg element to its extended position, the spring 8 may be depressed, as illustrated in Fig. 5, to insert the tongue 17 into the hole 13 in the side bar to which it is secured. The leg element is then rotated about the pivot dowel 5 over the spring 8. The dimensions of the top portion of the leg element are such that, when the leg element has

5

6

been rotated to the desired extended position, illustrated in Figs. 3 and 4, the spring 8 springs out from the hole 13 to engage against the face 20 of the leg element to limit any further forward movement of the leg element. The face 21 of the leg element, at the same time, engages against front face 14 of the stop 6. This front face 14 is inclined to correspond to the taper of the leg element in order that it may engage snugly the inclined or tapered surface 21 near the top of the leg element 3 in its extended position, Figs. 3 and 4, to lock the leg element in its extended position.

The invention, is not of course, restricted to this specific mechanism for locking the legs in either the collapsed or the extended positions. Other leg-folding mechanisms, either with or without a locking device, may also be employed. The leg elements may also be attached and detached from the members A and B in any well-known way, as by hooking them over leg-supporting dowels or the free ends of the members A and B.

A very practicable chair of the character described, providing an excellent upright dining chair and a comfortable living-room lounge chair may have the following approximate dimensions: length of legs 3, ten and a half inches; length of legs 4, sixteen and a half inches; combined length of side-bar supports 18 and rigid leg elements 1, thirty-six inches; length of leg element 1, thirteen and a quarter inches; length of side-bar supports 2, twenty and a half inches; width of member A, nineteen and a half inches; and width of member B, eighteen inches.

Further modifications will occur to persons skilled in the art, and all such are considered to fall within the spirit and scope of the present invention, as defined in the appended claim.

What is claimed is:

An upright chair of the type comprising an upright back having two longitudinally extending side supports joined between their inner longitudinal edges by back material, upright legs depending integrally in straight lines therefrom, and a seat secured to the back and having two longitudinally extending side supports joined be-

tween their inner longitudinal edges by seat material; the said upright chair being provided with first and second pairs of further legs and means for pivotally mounting the same at the free ends of the upright back and the seat, respectively, at portions of the respective upright back and seat side supports disposed between their inner and outer longitudinal edges, each pair of further legs being pivotable about the said mounting means to a collapsed position adjacent the respective side supports where the further legs are concealed between the side supports and to an extended position, the length of the second pair of further legs being substantially equal to the length of the said upright legs in order that, when occupying the said extended position, the second pair of further legs may support the chair in its upright position, the chair when tilted backward disposing the upright back and the upright legs along a predetermined inclined position in which the first pair of further legs in their extended position and the said inclined-positioned legs may support the chair in order to permit its use as a lounge with the seat serving as the back and the upright back as the inclined seat of the said lounge, each pair of further legs being provided with mechanism associated with the said pivotally mounting means for locking the further legs in both the said extended and collapsed positions.

References Cited in the file of this patent

UNITED STATES PATENTS

35 Number	Name	Date
76,202	Knell	Mar. 31, 1868
154,071	Myers et al.	Aug. 11, 1874
921,466	Ruehs	May 11, 1909
1,480,905	Hebert	Jan. 15, 1924
1,911,127	Wasserberg	May 23, 1933
2,351,222	Muskin	June 13, 1944
2,519,885	Carlson	Aug. 22, 1950

FOREIGN PATENTS

45 Number	Country	Date
605,315	Germany	Nov. 8, 1934